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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,971	08/25/2003	Anuja Nair	895,675-007	2843
34263	7590	11/03/2005		
O'MELVENY & MYERS LLP 610 NEWPORT CENTER DRIVE 17TH FLOOR NEWPORT BEACH, CA 92660				
EXAMINER JAWORSKI, FRANCIS J				
ART UNIT		PAPER NUMBER		
3737				

DATE MAILED: 11/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/647,971

Applicant(s)

NAIR ET AL.

Examiner

Jaworski Francis J.

Art Unit

3737

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) 1-21 and 46-49 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>8/25/03, 8/29/03</u> . | 6) <input checked="" type="checkbox"/> Other: <u>IDS 6/28/04, 9/24/04</u> . |

DETAILED ACTION

Claim Rejections - 35 USC § 102

[Claims 22-45 are present for examination in this case; claims 1 – 22 and 46 – 49 stand withdrawn from consideration, having been non-elected without traverse in the response filed on August 8, 2005.]

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 22-23, 25, 27-28, 33 – 35, 39-44 are rejected under 35 U.S.C. 102(b) as being anticipated by Vince et al (US6200168) which teaches in Fig. 7 for example a method and a structure for characterizing vascular tissue by collecting RF backscatter data via IVUS catheter and producing a first vascular image therefrom, concomitantly producing a histology slide image and mapping the backscatter image to the histology image for a region of interest (ROI) using a common landmark, and then using a frequency transform parameter of the backscatter data in order to characterize a portion of the histology. A warping algorithm for matching histology and backscatter images constitutes a morphometric algorithm. Lipid/calcification classifications are identified by FFT analysis as discussed in col. 5.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vince et al as argued against claim 22 above, further in view of Kerut, Sr. (US6415046) or Marmarelis (US6776760). Whereas the former is silent as to wavelet transformation analysis, it would have been obvious in view of Kerut to analyze in this fashion since this technique was known to be applicable to smaller ROIs associated with vessel linings using raw ultrasound image data, see col. 1 and 7 thereof.. In the alternative, it would have been obvious in view of Marmarelis to perform wavelet techniques ('decomposition' referenced therein being likenable by the Examiner to 'transformation' in the claim language) since these were known to allow for vascular texture analysis as discussed therein.

Claims 26 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vince et al as applied respectively to claims 25 and 44 above, and further in view

of Gupta (US6154518), since whereas the former is silent as to thin-plate methodology, it would have been obvious in view of the latter col. 5 top to use such in association with image warping since this was known to be an effective mathematical technique for registering images.

Claims 29 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vince et al as applied respectively to claims 23 and 34 above, and further in view of Taha (US6597943) since whereas the former is silent as to Welch periodogram analysis it would have been obvious in view of the latter col. 5 lower half to use same in order to completely characterize a biological signal spectrum for its energy distribution.


Claims 30 – 32, 37 - 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vince et al since whereas the patent does not specifically state use of autoregressive spectral analysis or determination of power maxima, it would have been obvious to do so since the patent face citation col. 2 top suggests applicability of AR and col. 5 indicates that other power parameterizations would have been useful for the categorizations of plaque and calcifications practiced at multiple sites.

Cespedes et al (US6165128), Fritz et al (US 6,817,982 and 6,835,177) and Herrington et al (US6264609) are cited to complete the record as directed to arterial wall characterization using backscattered ultrasound.

Any inquiry concerning this communication should be directed to Jaworski Francis J. at telephone number 571-272-4738.

FJJ:fjj

10282005


Francis J. Jaworski
Primary Examiner